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## **Vaccinia Necrosum after Smallpox Vaccination -- Michigan**

On April 1, 1982, a 61-year-old female with a 2-year history of severe recurrent genital herpes received a smallpox vaccination in an attempt to treat the disease. A persistent ulcer developed at the vaccination site on her left arm. When, on May 5, she was hospitalized for the first time for treatment of the vaccinia necrosum, the ulcer measured 5x5 cm and yielded vaccinia virus on culture. She had multiple erythematous perineal ulcers from which herpes virus was recovered. Initial work-up revealed a hemoglobin of 10.8, white blood cell count of 3,200/mm<sup>3</sup>, and normal immunoelectrophoresis, but specific immunoglobulins were low (IgA = 10 mg/100 ml, IgG = 310, and IgM = 15). Intermediate PPD, histoplasmin, candida, and mumps skin tests were negative. During hospitalization from May 5 to May 15, she received vaccinia immune globulin (VIG), oral thiosemicarbazone, and intravenous acyclovir. The perineal ulcers cleared almost entirely and became negative on virus culture. However, the left arm ulcer was unchanged and continued to yield vaccinia virus.

During follow-up as an outpatient, her arm ulcer gradually enlarged. When the patient was rehospitalized from June 1 to June 14, the arm ulcer measured approximately 8x7 cm, but she had no evidence of active genital herpes. During the second hospitalization, she received VIG, oral thiosemicarbazone, and interferon--5 million units intramuscularly daily for 10 days. When she was discharged on June 14, her arm ulcer was approximately the same size as on admission, and a small lesion, believed to be a minor scratch or mosquito bite, was present on the left thigh. The patient was treated as an outpatient with intravenous interferon, 8 million units, three times a week. The left arm ulcer remained approximately the same size but showed some signs of epithelialization. The lesion on her left thigh, however, increased in size to an ulcer approximately 2.5 cm in diameter. Both the left arm and the left thigh ulcers repeatedly yielded vaccinia virus. The patient was hospitalized for the third time from July 15 to July 20 for surgical removal of the ulcer on her left thigh and retreatment with interferon, thiosemicarbazone, and VIG. In addition, she received four doses of transfer factor at the University of Michigan--Ann Arbor. On last examination, the site of the leg lesion was still positive for vaccinia virus, and the arm lesion has shown no signs of improvement. Other modes of therapy being considered include surgical removal of the left-arm ulcer and treatment with thymosin. Reported by M Gurwith, MD, Div of Infectious Diseases, Michigan State University, Dept of Medicine, East Lansing, NS Hayner, State Epidemiologist, Michigan State Health Dept, International Health Program Office, CDC.

## Editorial Note

Editorial Note: To date, the patient has required three hospitalizations for treatment of smallpox vaccination complications for which none of the usual treatments has been effective. The severe course of her herpes and vaccinia infections suggest underlying immunosuppression or deficiency, but no specific immunologic defect has been identified.

This case of vaccinia necrosum demonstrates the risk of using smallpox vaccination, a treatment with no proven effectiveness, for herpes disease (1). The Food and Drug Administration recently published a warning to all physicians on the inappropriate use of smallpox vaccination for herpes infection (2).

## References

1. CDC. Smallpox Vaccine, MMWR 1980;29:417.
2. Inappropriate use of smallpox vaccine. FDA Drug Bulletin. 1982;12:12.

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